(shown in FIGS. 3–6, 8–10, 12, 14, 16) and necessary information may be stored in a memory device as shown in FIG. 17. In this case, it is possible that the memory device is applied for each apparatus or content of the memory device is transmitted to each apparatus by a communication device.

A memory can be used to store instructions for performing the process described above, such a memory can be a CD-ROM, floppy disk, hard disk, magnetic tape, semiconductor memory, and so on.

Other embodiments of the invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with the true scope and spirit of the invention being indicated by the following claims.

What is claimed is:

1. A security apparatus for a device supplying a service to a user in a service use area surrounding the user, comprising:

image input means for continuously inputting an image to monitor the service use area;

person discrimination means for continuously recognizing a person in the input image, and for registering the person as a user allowed to use the service if the person is recognized as an authorized user;

use situation decision means for deciding that the user is not under a situation to use the service in case the user is not recognized in the input image;

infringement situation decision means for deciding that a security of the service use area is infringed in case at least one person other than the authorized user is recognized in the input image; and

service control means for supplying the service to the authorized user and for controlling a supply of the service if said use situation decision means decides that the user is not under the situation to use the service or if said infringement situation decision means decides that the security of the service use area is infringed.

2. The security apparatus according to claim 1, wherein said service control means finishes the supply of the service in case said use situation decision means decides the user is not under the situation to use the service.

3. The security apparatus according to claim 1,

wherein said service control means interrupts the supply of the service until the infringement situation is relieved in case said infringement situation decision means decides the security of the service is infringed.

4. The security apparatus according to claim 1,

wherein said service control means decides whether work of the user for the service is completed or not in case said use situation decision means decides the user is not under the situation to use the service.

5. The security apparatus according to claim 4,

wherein said service control means finishes the supply of the service in case the work of the user for the service is completed, interrupts the supply of the service in case the work of the user for the service is not completed, and relieves an interruption of the supply of the service in case said use situation decision means decides the user is under the situation to use the service again.

6. The security apparatus according to claim 1,

wherein said person discrimination means recognizes the user by referring to a person comparison dictionary to recognize persons allowed to use the service.

7. The security apparatus according to claim 1,

wherein said person discrimination means generates a person comparison dictionary to recognize unspecified users allowed to use the service, and recognizes the unspecified person by referring to the person comparison dictionary while the unspecified person is a user.

8. The security apparatus according to claim 1,

wherein said service control means sends a warning to the user when said infringement situation decision means decides the security of the service is infringed.

9. The security apparatus according to claim 8,

wherein said service control means controls the supply of the service in accordance with an indication of the user being warned.

10. The security apparatus according to claim 1,

wherein said service control means controls the supply of the service in accordance with security degrees preset to a unit of the service or information for the service.

11. The security apparatus according to claim 1,

wherein said service control means detects movement of the visual line or a direction of the face of the user and controls the supply of the service in accordance with the movement of the visual line or the direction of the face of the user.

12. The security apparatus according to claim 1,

wherein said service control means detects movement of the visual line or a direction of the face of the non-user and controls the supply of the service in accordance with the movement of the visual line or the direction of the face of the non-user.

13. A security apparatus for a device supplying a service to a user, comprising:

person discrimination means for recognizing a user requesting the service;

use situation decision means for deciding whether the user is under a situation to use the service;

infringement situation decision means for detecting whether a non-user intrudes into a use area of the service to decide whether the service is infringed; and

service control means for supplying the service to the user in case said person discrimination means recognizes the user, and for controlling a supply of the service if said use situation decision means decides the user is not under the situation to use the service or if said infringement situation decision means decides that the security of the service is infringed,

wherein said service control means decides whether work of the user for the service is completed or not in case said use situation decision means decides the user is not under the situation to use the service,

wherein said service control means finishes the supply of the service in case the work of the user for the service is completed, interrupts the supply of the service in case the work of the user for the service is not completed, and relieves an interruption of the supply of the service in case said use situation decision means decides the user is under the situation to use the service again, and

wherein said service control means finishes the supply of the service in case said use situation decision means decides the user is not under the situation to use the service within a predetermined time during the interruption of the supply of the service.

14. A security apparatus for a device supplying a service to a user, comprising:

person discrimination means for recognizing a user requesting the service;

use situation decision means for deciding whether the user is under a situation to use the service;

infringement situation decision means for detecting whether a non-user intrudes into a use area of the service to decide whether the service is infringed; and

service control means for supplying the service to the user in case said person discrimination means recognizes the user, and for controlling a supply of the service if said use situation decision means decides the user is not under the situation to use the service or if said infringement situation decision means decides that the security of the service is infringed,

wherein said service control means sends a warning to the user when said infringement situation decision means decides the security of the service is infringed,

wherein said service control means controls the supply of the service in accordance with an indication of the user being warned, and

wherein said service control means controls the supply of the service in accordance with predetermined control information in case of a non-response of the user within a predetermined time after warning of the infringement.

15. A security method associated with supplying a service to a user in a service use area surrounding the user, comprising the steps of:

continuously inputting an image to monitor the service use area;

continuously recognizing a person in the input image;

registering the person as a user allowed to use the service if the person is recognized as an authorized user;

supplying the service to the authorized user;

deciding that the user is not under a situation to use the service in case the user is not recognized in the input image;

deciding that a security of the service use area is infringed in case at least one person other than the authorized user is recognized in the input image; and

controlling the supply of the service if the user is not under the situation to use the service or if the security of the service use area is infringed.

16. A computer readable memory containing computer-readable instructions to supply a service to a user in a service use area surrounding the user, comprising:

instruction means for causing a computer to continuously input an image to monitor the service use area;

instruction means for causing a computer to continuously recognize a person in the input image;

instruction means for causing a computer to register the person as a user allowed to use the service if the person is recognized as an authorized user;

instruction means for causing a computer to supply the service to the authorized user;

instruction means for causing a computer to decide that the user is not under a situation to use the service in case the user is not recognized in the input image;

instruction means for causing a computer to decide that a security of the service use area is infringed in case at least one person other than the authorized user is recognized in the input image; and

instruction means for causing a computer to control a supply of the service if the user is not under the situation to use the service or if the security of the service use area is infringed.

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